

CLAIMS

1. An image forming apparatus comprising:
  - a conveyance belt that conveys a recording medium by attracting the recording medium by an electrostatic force generated by electric charges applied thereto;
  - a charger that applies electric charges to said conveyance belt;
- 10 a recording head that discharges droplets of a recording liquid toward the recording medium being conveyed by said conveyance belt; and
- 15 adjusting means for adjusting an amount of electric charges induced on a surface of the recording medium,

wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium, which has been conveyed to a recording position where the droplets of the recording liquid are discharged from said recording head toward the recording medium, in accordance with a resistance value of the recording medium.

2. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount

of the electric charges on the surface of the recording medium in accordance with a result of detection of a surface resistance of the recording medium.

5               3. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium in accordance with a result of detection of a volume resistance of the recording medium.

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4. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium in accordance with a result of detection of 15 environment temperature and humidity.

5. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording 20 medium in accordance with externally given information regarding the resistance value of the recording medium.

6. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount 25 of the electric charges on the surface of the recording

medium by controlling a charge period length of positive and negative charges applied by said charger to said conveyance belt.

5           7. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling an alternating voltage applied to said charger to apply positive and negative charges to  
10        said conveyance belt.

8. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling a timing of applying electric charges onto said conveyance belt so as to switch existence/nonexistence of charges on the surface of the recording medium.

20           9. The image forming apparatus as claimed in claim 1, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling at least one of a conveyance speed and a stop time of said conveyance belt so as to change  
25        a time period from a time when the charges are applied

to said conveyance belt until a time when the charges on said conveyance belt reach the recording position.

10. An image forming apparatus comprising:  
5                   a conveyance belt that conveys a recording medium by attracting the recording medium by an electrostatic force generated by electric charges applied thereto;

10                   a charger that applies electric charges to said conveyance belt;

                      a recording head that discharges droplets of a recording liquid toward the recording medium being conveyed by said conveyance belt; and

15                   adjusting means for adjusting an amount of electric charges induced on a surface of the recording medium,

                      wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium in accordance with a result of detection 20 of a relative position between the recording medium and the charges applied to said conveyance belt.

11. The image forming apparatus as claimed in  
claim 10, wherein said adjusting means adjusts the  
25 amount of the electric charges on the surface of the

recording medium by controlling a charge period length of positive and negative charges applied by said charger to said conveyance belt.

5               12. The image forming apparatus as claimed in claim 10, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling an alternating voltage applied to said charger to apply positive and negative 10 charges to said conveyance belt.

13. The image forming apparatus as claimed in claim 10, wherein said adjusting means adjusts the amount of the electric charges on the surface of the 15 recording medium by controlling a timing of applying electric charges onto said conveyance belt so as to switch existence/nonexistence of charges on the surface of the recording medium.

20               14. The image forming apparatus as claimed in claim 10, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling at least one of a conveyance speed and a stop time of said conveyance belt 25 so as to change a time period from a time when the

charges are applied to said conveyance belt until a time when the charges on said conveyance belt reach the recording position.

5           15. An image forming apparatus comprising:

              a conveyance belt that conveys a recording medium by attracting the recording medium by an electrostatic force generated by electric charges applied thereto;

10           a charger that applies electric charges to said conveyance belt;

              a recording head that discharges droplets of a recording liquid toward the recording medium being conveyed by said conveyance belt; and

15           adjusting means for adjusting an amount of electric charges induced on a surface of the recording medium,

              wherein said adjusting means adjusts the amount of the electric charges on the surface of the 20 recording medium in accordance with a size of the droplets of the recording liquid discharged from said recording head.

16. The image forming apparatus as claimed in 25 claim 15, wherein said adjusting means adjusts the

amount of the electric charges on the surface of the recording medium in accordance with externally given information recording a size of the droplets of the recording liquid.

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17. The image forming apparatus as claimed in claim 15, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling a charge period length 10 of positive and negative charges applied by said charger to said conveyance belt.

18. The image forming apparatus as claimed in claim 15, wherein said adjusting means adjusts the 15 amount of the electric charges on the surface of the recording medium by controlling an alternating voltage applied to said charger to apply positive and negative charges to said conveyance belt.

20 19. The image forming apparatus as claimed in claim 15, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling a timing of applying electric charges onto said conveyance belt so as to 25 switch existence/nonexistence of charges on the surface

of the recording medium.

20. The image forming apparatus as claimed in  
claim 15, wherein said adjusting means adjusts the  
5 amount of the electric charges on the surface of the  
recording medium by controlling at least one of a  
conveyance speed and a stop time of said conveyance belt  
so as to change a time period from a time when the  
charges are applied to said conveyance belt until a time  
10 when the charges on said conveyance belt reach the  
recording position.

21. An image forming apparatus comprising:  
a conveyance belt that conveys a recording  
15 medium by attracting the recording medium by an  
electrostatic force generated by electric charges  
applied thereto;  
a charger that applies electric charges to  
said conveyance belt;  
20 a recording head that discharges droplets of a  
recording liquid toward the recording medium being  
conveyed by said conveyance belt; and  
adjusting means for adjusting an amount of  
electric charges induced on a surface of the recording  
25 medium,

wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium in accordance with a viscosity of the droplets of the recording liquid discharged from said 5 recording head.

22. The image forming apparatus as claimed in claim 21, wherein said adjusting means adjusts the amount of the electric charges on the surface of the 10 recording medium in accordance with a result of detection of an environment temperature.

23. The image forming apparatus as claimed in claim 21, wherein said adjusting means adjusts the 15 amount of the electric charges on the surface of the recording medium by controlling a charge period length of positive and negative charges applied by said charger to said conveyance belt.

20 24. The image forming apparatus as claimed in claim 21, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling an alternating voltage applied to said charger to apply positive and negative 25 charges to said conveyance belt.

25. The image forming apparatus as claimed in  
claim 21, wherein said adjusting means adjusts the  
amount of the electric charges on the surface of the  
recording medium by controlling a timing of applying  
electric charges onto said conveyance belt so as to  
switch existence/nonexistence of charges on the surface  
of the recording medium.

10 26. The image forming apparatus as claimed in  
claim 21, wherein said adjusting means adjusts the  
amount of the electric charges on the surface of the  
recording medium by controlling at least one of a  
conveyance speed and a stop time of said conveyance belt  
15 so as to change a time period from a time when the  
charges are applied to said conveyance belt until a time  
when the charges on said conveyance belt reach the  
recording position.

20 27. An image forming apparatus comprising:  
a conveyance belt that conveys a recording  
medium by attracting the recording medium by an  
electrostatic force generated by electric charges  
applied thereto;

25 a charger that applies electric charges to

said conveyance belt;

a recording head that discharges droplets of a recording liquid toward the recording medium being conveyed by said conveyance belt; and

5                   adjusting means for adjusting an amount of electric charges induced on a surface of the recording medium,

                  wherein said adjusting means adjusts the amount of the electric charges on the surface of the 10 recording medium in accordance with at least two items including a resistance value of the recording medium, a result of detection of a relative position between the recording medium and the charges applied to said recording belt, a size of the droplets of the recording 15 liquid discharged from said recording head and a viscosity of the droplets of the recording liquid discharged from said recording head.

28. The image forming apparatus as claimed in 20 claim 27, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling a charge period length of positive and negative charges applied by said charger to said conveyance belt.

29. The image forming apparatus as claimed in  
claim 27, wherein said adjusting means adjusts the  
amount of the electric charges on the surface of the  
recording medium by controlling an alternating voltage  
5 applied to said charger to apply positive and negative  
charges to said conveyance belt.

30. The image forming apparatus as claimed in  
claim 27, wherein said adjusting means adjusts the  
10 amount of the electric charges on the surface of the  
recording medium by controlling a timing of applying  
electric charges onto said conveyance belt so as to  
switch existence/nonexistence of charges on the surface  
of the recording medium.

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31. The image forming apparatus as claimed in  
claim 27, wherein said adjusting means adjusts the  
amount of the electric charges on the surface of the  
recording medium by controlling at least one of a  
20 conveyance speed and a stop time of said conveyance belt  
so as to change a time period from a time when the  
charges are applied to said conveyance belt until a time  
when the charges on said conveyance belt reach the  
recording position.

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32. An image forming apparatus configured and arranged to perform both-side printing, comprising:

    a conveyance belt that conveys a recording medium having a first surface and a second surface

5    opposite to the first surface by attracting the recording medium by an electrostatic force generated by electric charges applied thereto;

    a charger that applies electric charges to said conveyance belt;

10    a recording head that discharges droplets of a recording liquid toward the recording medium being conveyed by said conveyance belt; and

    adjusting means for adjusting an amount of electric charges induced on a surface of the recording

15    medium,

    wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium, which has been conveyed to a recording position where the droplets of the recording liquid are

20    discharged from said recording head toward the recording medium, in accordance with a resistance value of the recording medium and a fact as to whether an image is being formed on the first surface to be printed first or the second surface printed subsequent to the first

25    surface.

33. The image forming apparatus as claimed in  
claim 32, wherein a resistance value of the second  
surface of the recording medium is presumed in  
accordance with an amount of the recording liquid  
5 adhered onto the first surface of the recording medium.

34. The image forming apparatus as claimed in  
claim 33, wherein a resistance value of each  
predetermined area of the second surface of the  
10 recording medium is presumed in accordance with an  
amount of the recording liquid adhered on each  
predetermined area of the first surface of the recording  
medium.

15 35. The image forming apparatus as claimed in  
claim 32, wherein said adjusting means adjusts the  
amount of the electric charges on the surface of the  
recording medium by controlling a charge period length  
of positive and negative charges applied by said charger  
20 to said conveyance belt.

36. The image forming apparatus as claimed in  
claim 32, wherein said adjusting means adjusts the  
amount of the electric charges on the surface of the  
25 recording medium by controlling an alternating voltage

applied to said charger to apply positive and negative charges to said conveyance belt.

37. The image forming apparatus as claimed in  
5 claim 32, wherein said adjusting means adjusts the amount of the electric charges on the surface of the recording medium by controlling a timing of applying electric charges onto said conveyance belt so as to switch existence/nonexistence of charges on the surface  
10 of the recording medium.

38. The image forming apparatus as claimed in  
claim 32, wherein said adjusting means adjusts the amount of the electric charges on the surface of the  
15 recording medium by controlling at least one of a conveyance speed and a stop time of said conveyance belt so as to change a time period from a time when the charges are applied to said conveyance belt until a time when the charges on said conveyance belt reach the  
20 recording position.